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**IMPORTANT**

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**FACSIMILE COVER LETTER**

From: Carmen Pili Ekstrom

Date: 2/21/05

To: Examiner Mayo  
Name

United States Patent Office AU2831  
Company

703 872-9306  
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TOTAL NUMBER OF PAGES INCLUDING COVER LETTER: 10

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**SPECIAL COMMENTS AND INSTRUCTIONS:**

Re: U.S. Application Serial No. 10/7870,021

Inventor: Arzate

Docket No. MX/JFC-04-01A

Attached is the amendment I would like to discuss with you at the interview on Wednesday, February 23, 2005 at 10:00 AM (ET). If you have any questions, please do not hesitate to contact me.

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**THE UNITED STATES PATENT AND TRADEMARK OFFICE****RECEIVED  
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In re Application of: )

Fermin Marquez ARZATE et al. )

Serial No. 10/780,021 )

Filed: February 16, 2004 )

Title: **IMPROVED OVERHEAD AND  
UNDERGROUND TELEPHONE  
LEAD IN CABLE FOR VOICE,  
DATA AND VIDEO TRANSMISSION  
SERVICES** )

Docket No. MX/JFC04-01A )

**BOX NON-FEE AMENDMENT**

Group Art Unit: 2831

Examiner: William Mayo II

**PROPOSED AMENDMENT**Assistant Commissioner for Patents  
Washington D.C. 20231

Sir:

In response to the Office Action dated September 30, 2004, please amend the  
above-identified application as follows:

**Amendments to the Claims are on page 2.**

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**Listing of Claims:**

Claims 1-8 (cancelled).

Claim 9 (new) An overhead or underground telephone lead-in cable for voice, video and data (VVDL) transmission services, comprising:

a rectangular structure comprising a rectangular outer cover having a geometrical shape comprising a thermoplastic material;

at least one or a plurality of transmission circuit comprising: a self-supporting member comprising two conducting elements; said elements arranged at the opposite ends, in parallel, and in turn are diametrically opposed to the transmission circuit;

said cable comprising a core having a pair of stranded conductors placed at the center of the rectangular structure of the cable wherein said conductors are insulated by a thermoplastic compound layer; a swelling layer surrounding said core which is deposited electrostatically as a moisture protection element; and an extruded cover reinforced with a thermoplastic material forming the lead-in cable.

Claim 10 (new) The overhead or underground telephone lead-in cable for transmission services (VVDL) of claim 9 wherein the conducting elements are made of a material selected from the group consisting of metal, alloys, fiber glass and combination thereof.

Claim 11 (new) The overhead or underground telephone lead-in cable for transmission services (VVDL) of claim 9 wherein the conducting elements are impregnated with a material selected from a group consisting of polymers, kevlar tapes

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and mylar tapes.

Claim 12 (new) The overhead or underground telephone lead-in cable for transmission services (VVDL) of claim 11 wherein the polymers are selected from a group consisting of polyolefins, polyethylene, polypropylene and combinations thereof.

Claim 13 (new) The overhead or underground telephone lead-in cable for transmission services (VVDL) of claim 9, wherein the circuit formed by a stranded pair of balanced circuit presents a characteristic impedance of 100 ohms.

Claim 14 (new) The overhead or underground telephone lead-in cable for transmission services (VVDL) of claim 9, wherein the swelling layer comprises a swelling powder which is a conventional poly(sodium acrylate) homopolymer compound.

Claim 15 (new) The overhead or underground telephone lead-in cable for transmission services (VVDL) of claim 9, wherein the swelling layer is electrostatically applied to form a cover layer on the stranded pair during the extrusion of a flame resistant reinforced thermoplastic cover.

Claim 16 (new) ) The overhead or underground telephone lead-in cable for transmission services (VVDL) of claim 9 wherein the self supporting member is made of metal.

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Claim 17 (new) ) The overhead or underground telephone lead-in cable for transmission services (VVDL) of claim 16 wherein the self supporting member acts as additional circuit with regard to the core, enhancing the transmission of voice signals such that they constitute a circuit oriented to the transmission of analog signals.

Claim 18 (new) The overhead or underground telephone lead-in cable for transmission services (VVDL) of claim 9, wherein the circuit of the stranded pair permits the transmission of digital signal data at speeds of 155 Mbps.

Claim 19 (new) The overhead or underground telephone lead-in cable for transmission services (VVDL) of claim 9, wherein the pair of conductors are stranded with a smooth surface at a diameter of 0.5 to 0.64 mm.

Claim 20 (new). The overhead or underground telephone lead-in cable for transmission services (VVDL) of claim 9, wherein the cable permits to span distances of up to 150 meters, and the distance between each strand of the conductors permits to reduce the diaphony effects caused by the nearness of other element emitting electromagnetic signals, as well as reduce the loss of energy to the other circuit.

Claim 21 (new) The overhead or underground telephone lead-in cable for transmission services (VVDL) of claim 9, wherein in each one of the conductors, the core is insulated with a thermoplastic layer.

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Claim 22 (new) The overhead or underground telephone lead-in cable for transmission services (VVDL) of claim 21, wherein the insulation is applied continuously and uniformly such that the concentricity of the wall of insulating material with regard to the conductor is higher than 90% and can be colored for identification purposes.

Claim 23 (new) The overhead or underground telephone lead-in cable for transmission services (VVDL) according to claim 9 further comprising a thin thermoplastic sleeve as a protecting element against melting heat of up to 240°C.

Claim 24 (new) The overhead or underground telephone lead-in cable for transmission services (VVDL) of claim 23, wherein the swelling layer further comprises a filler, which serves as a moisture protective element and is deposited electrostatically and arranged between the area around the thin sleeve and the core of the stranded conductors.

Claim 25 (new) The overhead or underground telephone lead-in cable for transmission services (VVDL) of claim 9, wherein the conductors of the core or self-supporting member of the metal cables are elements selected from the group consisting of copper, alloys and combination thereof.

Claim 26 (new) The overhead or underground telephone lead-in cable for transmission services (VVDL) of claim 9 wherein the conductors are subjected to

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thermal treatments.

Claim 27 (new) The overhead or underground telephone lead-in cable for transmission services (VVDL) of claim 9 wherein the thermal treatment is between 45°C and 550°C.

Claim 28 (new) The overhead or underground telephone lead-in cable for transmission services (VVDL) of claim 9 wherein the stranded pair further comprises optionally a covering of a thin protecting tape material comprising a temperature resistant material and applied helicoidally or longitudinally onto the protective element.

Claim 29 (new) The overhead or underground telephone lead-in cable for transmission services (VVDL) of claim 9 wherein the space between the thin protecting tape material and the stranded conductor is impregnated through electrostatic means with the swelling layer.

Claim 30 (new) The overhead or underground telephone lead-in cable for transmission services (VVDL) of claim 9 which permits development of cable constructions from at least 16 AWG to 26 AWG conductors as components of the core.

Claim 31 (new) The overhead or underground telephone lead-in cable for transmission services (VVDL) of claim 9 further comprising trimmed edges and recesses to permit installation of the product.

Claim 32 (new) The overhead or underground telephone lead-in cable for transmission services (VVDL) of claim 9 comprising:

a rectangular structure comprising a rectangular outer cover having a geometrical

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shape comprising a thermoplastic material;

at least one or a plurality of transmission circuit comprising: a self-supporting member comprising two conducting elements; said elements arranged at the opposite ends, in parallel, and in turn are diametrically opposed to the transmission circuit;

said cable comprising a core having a pair of stranded metal conductors placed at the center of the rectangular structure of the cable wherein said conductors are insulated by a thermoplastic compound layer; a thin thermoplastic sleeve as protecting element against melting heat of up to 240°C; a filler of swelling layer surrounding said core which is deposited electrostatically between the area around the thin sleeve and the core of stranded conductors as a moisture protection element; and an extruded cover reinforced with a thermoplastic material forming the lead-in cable.



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### REMARKS

Claims 1-8 have been canceled. New claims 9-32 have been added. It is submitted that there are no new matter incorporated in these amendments.

Claims 1-8 have been rejected under 35 USC 112 as being indefinite. It is submitted that the amendment of the claims render the rejection moot. The withdrawal of the rejection is respectfully requested.

Claims 1-8 have been rejected under 35 USC 103 as being unpatentable over Osornio et al. in view of Asai et al

The present invention is directed to an overhead or underground telephone lead-in cable for transmission services (VVDL) which includes a moisture absorbing swelling material impregnated on two insulated conductors. Moreover, the distribution of the film of the swelling material is applied electrostatically such that it is controlled in a quantity proportional to the required thickness of the film. There is no disclosure or suggestion in Osornio regarding a moisture absorbing swellable material.

Asai is directed to a water swellable materials and radiation cure processes for their preparation. In particular it is concerned with the use of such materials and processes for the preparation of water absorbent or water blocking coatings in a rapid continuous process. It further discloses a multitude of polymers.

It is submitted that there is no motivation or suggestion in the prior art to pick and choose a specific polymer from a multitude of polymers and particularly use it for the purpose of preparing the cables of the present invention. In re Ahlbrecht, 435 F.2d 908, 911, 168 USPQ 293, 296 (CCPA 1971).

Applicants request the withdrawal of the rejection of the claims 1-8 as being unpatentable over Osornio et al. in view of Asai et al.


In view of the above remarks, it is respectfully submitted that the claims are in condition for examination. In the event that there are any problems which can be expedited by telephone conference, the Examiner is invited to telephone the Applicant's undersigned attorney at the telephone number listed below.

Respectfully submitted,  
LAW OFFICE OF CARMEN PILI EKSTROM

Enclosures:

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Attorney Docket No. MX/JFC04-01A  
Date: February 21, 2005  
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